

WHAT IS CLAIMED IS:

1. In a communication system where connections are established between an external network and subscriber units by way of an access network, a method comprising:

→ detecting a failure in a node;

5 → determining one or more subscriber unit connections affected by the detected failure;  
and

sending a message identifying the one or more affected subscriber unit connections.

2. The method in claim 1, further comprising:

→ releasing the one or more affected radio subscriber unit connections identified in the message.

3. The method in claim 1, further comprising:

→ maintaining one or more subscriber connections not determined to be affected by the detected failure.

4. The method in claim 1, further comprising:

→ maintaining a signaling connection associated with a subscriber unit affected by the detected failure

5. The method in claim 1, wherein the subscriber unit uses plural connections during a communications session.

6. The method in claim 1, further comprising:

generating a list identifying the one or more subscriber units affected by the detected failure and one or more subscriber unit connections affected by the detected failure, and wherein the message includes the list.

7. The method in claim 1, further comprising:

generating a list identifying the one or more subscriber units affected by the detected failure without identifying radio subscriber unit connections, and

releasing all subscriber unit connections associated with the one or more subscriber units in the list.

8. The method in claims 6 or 7, further comprising:  
indicating in the list whether a signaling connection associated with a subscriber unit  
affected by the detected failure should be released or maintained.

9. The method in claim 6, wherein the list includes identifiers for the one or more  
subscriber units affected by the detected failure and for the one or more subscriber unit  
connections affected by the detected failure.

10. The method in claim 9, wherein when the list does not include connection  
identifiers, all connections for a radio subscriber unit are released.

11. The method in claim 1, wherein the message is sent to one or more other nodes.

12. The method in claim 11, wherein the node is one of an external network node, a  
core network node, an access network node, and a subscriber unit.

13. The method in claim 1, wherein the message is a control signaling message.

14. The method in claim 13, wherein the message is sent using an existing access  
network control signaling message.

15. In a communication system where connections are established between an  
external network and radio subscriber units by way of a radio access network, a method  
comprising:

detecting a failure in a device in a node, and  
sending a message identifying the failed device to one or more other nodes,  
wherein the one or more other nodes release radio subscriber unit connections  
associated with the identified failed device.

16. The method in claim 15, further comprising:  
assigning a corresponding network address to devices in the node, and  
when a radio subscriber unit connection is established, sending an address for each  
device associated with the radio subscriber unit connection to one or more other nodes,  
wherein the message includes the network address of the failed device.

17. The method in claim 16, wherein the network address is an Internet Protocol (IP) address.

18. The method in claim 15, further comprising:  
 detecting a failure of a board containing plural devices,  
 wherein the message identifies the addresses of the plural devices on the board, and  
 wherein the one or more other nodes release radio unit connections associated with  
 the failed board.

19. The method in claim 15, wherein the node is one of an external network node, a core network node, a radio network node, and a radio subscriber unit.

20. The method in claim 15, further comprising:  
 generating a list identifying one or more radio subscriber units affected by the detected failure, and  
 wherein the message includes the list.

21. In a radio communications system providing communications between an external network and radio units, a radio access network that interfaces the external network and the radio units, comprising:

a radio network control node for communicating with the external network; and  
 a radio base station node coupled to the radio network controller configured to provide a radio interface with plural radio units,

wherein when a failure is detected in one of the nodes, the one node is configured to send a message to another of the nodes identifying one or more radio unit connections affected by the failure.

22. The radio access network in claim 21, wherein the other node is configured to release the one or more detected radio unit connections identified in the message.

23. The radio access network in claim 22, wherein the other node is configured to maintain one or more radio connections not determined to be affected by the detected failure.

24. The radio access network in claim 23, wherein the other node is configured to maintain a signaling link associated with a radio unit affected by the detected failure.

25. The radio access network in claim 21, wherein the one node is configured to generate a list identifying the one or more radio units affected by the detected failure and one or more radio unit connections affected by the detected failure, and wherein the message includes the list.

5 26. The radio access network in claim 25, wherein the list includes identifiers for the one or more radio units affected by the detected failure and for the one or more radio unit connections affected by the detected failure.

27. The radio access network in claim 21, wherein when the list does not include connection identifiers, all connections for a radio subscriber unit are to be released.

10 28. The radio access network in claim 21, wherein the message is a control signaling message.

29. The radio access network in claim 28, wherein the message is sent using an existing radio access network control signaling message.

15 30. The radio access network in claim 21, wherein the one node sends a message to the radio unit identifying one or more radio unit connections affected by the failure.

31. The radio access network in claim 21, wherein when a failure is detected in the radio unit, the one node is configured to send a message to the other node to release any connections with the radio unit except a control signaling connection.

20 32. The radio access network in claim 21, wherein the node includes a switch coupled to plural processors, each processor being associated with a device.

33. The radio access network in claim 21, wherein the node includes a switch coupled to plural boards, each board containing plural ones of the processors.

25 34. In an access network providing communication connections between an external network and a subscriber unit, a network node communicating with one or more network nodes, comprising:

a controller configured to perform the following tasks:

detect a failure in the network node;  
 determine one or more subscriber unit connections affected by the detected failure; and  
 send a message to one or more other network nodes identifying the one or more affected subscriber unit connections.

35. The network node in claim 34, wherein the controller is configured (1) to generate a list identifying the one or more subscriber units affected by the detected failure and one or more subscriber unit connections affected by the detected failure and (2) to include the list in the message.

36. The network node in claim 35, wherein the list includes identifiers for the one or more subscriber units affected by the detected failure and for the one or more subscriber unit connections affected by the detected failure.

37. The network node in claim 34, wherein the controller is configured to generate a list identifying the one or more subscriber units affected by the detected failure without identifying radio subscriber unit connections, and wherein the list is used to release all subscriber unit connections associated with the one or more subscriber units in the list.

38. The network node in claims 35 or 37, wherein the controller is configured to indicate in the list whether a signalling connection associated with a subscriber unit affected by the detected failure should be released or maintained.

39. The network node in claim 34, wherein the node is one of an external network node, another network node, and a subscriber unit.

40. The network node in claim 34, wherein the node includes:  
 a switch, and  
 plural processors coupled to the switch.

41. The network node in claim 34, wherein the node includes:  
 plural processor boards coupled to a switch, each processor board having plural associated processors.

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42. An access network comprising the network node claimed in claim 34.

43. In a communication system where connections are established between an external network and radio subscriber units by way of a radio access network, apparatus comprising:

5 means for determining one or more radio subscriber unit connections affected by a failure detected in a radio access network node, and

means for sending a message identifying the one or more affected radio subscriber unit connections.

44. A system including the apparatus in claim 43, further comprising:

40 means for releasing the one or more affected radio subscriber unit connections identified in the message.

45. A system including the apparatus in claim 44, further comprising:

means for maintaining one or more radio subscriber connections not determined to be affected by the detected failure.

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